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| 10/626,495 | 07/24/2003 | Damian G. Bonicatto | 11838.0053-US-01 | 1998 |

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EXAMINER

HANNON, CHRISTIAN A

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

This action is response to applicant's response filed on 7/31/2006. Claims 1-20 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11 & 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "the substation transmitter" in the second lined, fifth word of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "the substation receiver" in the second line, second word of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1, 7, 8, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al (US 6,021,137), hereinafter Kato.

Regarding claim 1, Kato teaches a system for receiving and processing signals received from a plurality of endpoints, each endpoint including an endpoint transmitter in electrical communication with a power distribution line within a power distribution system, the system comprising: a power line coupler (Figure 9, Item 81), a substation transceiver in electrical communication with the power line coupler (Figure 9, Item 80), and a substation circuit in electrical communication with the substation transceiver, the substation circuit configured to simultaneously demodulate signals received from the plurality of different endpoints (Figure 9, Items 83 & 84; Column 12, Lines 45-56).

In regards to claim 7, Kato teaches the system of claim 1 wherein the substation circuit includes a digital signal processor programmed to simultaneously demodulate the signal received from the endpoint transmitters (Figure 9, Items 83, 84, 80B, 80A).

Regarding claim 8, Kato teaches the system of claim 1, wherein the substation transceiver simultaneously receives signals from a plurality of the endpoint transceivers (Column 12, Lines 45-56).

In regards to claim 12, Kato teaches the system of claim 1, further comprising a substation transceiver, the substation receiver integrally formed in the substation transceiver (Figure 9, Items 80, 90 & 100). It is noted by the examiner that Kato teaches a transceiver, and a receiver is an inherent part of a transceiver.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-6, 9 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of Brown et al (US 2003/0048152), hereinafter Brown.

Regarding claim 2, Kato teaches the system of claim 1, however Kato fails to teach wherein the substation circuit is programmed to demodulate signals using frequency shift keying (FSK). Brown teaches a power line communication system utilizing FSK (Page 2, [0021]; Brown). It would have been obvious to incorporate the teaching of Brown in that of Kato's spread spectrum teaching as Brown provides a teaching that FSK and spread spectrum could achieve the same goal.

With respect to claim 3 Kato and Brown teach the system of claim 2, furthermore Kato teaches wherein the substation circuit is programmed to demodulate signals within the range of about 970Hz to about 1006Hz. (Column 12, Lines 45-56; Kato). It is noted by the examiner that Kato teaches demodulation and it is obvious to one of ordinary skill in the art to use any demodulation frequency.

In regards to claim 4, Kato and Brown teach the system of claim 3, furthermore Kato teaches wherein each signal has a bandwidth about 10 MHz or less (Column 17, Lines 59-67; Kato) It is noted by the examiner that Kato's teachings allot for variations to any bandwidth parameters which are obvious to one of ordinary skill in the art.

Regarding claim 5, Kato and Brown teach the system of claim 4, wherein each signal has a bandwidth of 4 MHz (Column 17, Lines 59-67; Kato). It is noted by the examiner that Kato's teachings allot for variations to any bandwidth parameters that are obvious to one of ordinary skill in the art.

In regards to claim 6, Kato and Brown teach the system of claim 2, furthermore Kato teaches wherein the substation circuit is programmed to simultaneously demodulate up to 9000 signals, each signal being from a different endpoint transceiver (Column 1, Lines 10-14; Column 12, Lines 45-56; Kato). Kato leaves his teaching open ended and provides no upper bound limit on the maximum number of end units operable in the system, therefore Kato's teaching reads on this claim.

With respect to claim 9, Kato teaches the system of claim 1, wherein the power line coupler is in electrical communication with a power distribution line within a power distribution system the system further comprising one or more endpoints in electrical communication within the power distribution system, each endpoint including an endpoint circuit configured to generate data (Figure 9, Item 90A, 100A; Kato) and an endpoint transceiver in electrical communication with the endpoint circuit (Figure 9, 90B, 100B; Kato) and a power distribution line within the power distribution system (Figure 9, Item 5; Kato), the endpoint transceiver configured to generate a signal embodying the signal to modulate the data using a protocol and to transmit the modulated signal onto the power distribution line (Column 12, Lines 35-67; Column 13, Lines 1-35). However Kato fails to teach that that protocol is FSK. Brown teaches a power line communication system utilizing FSK (Page 2, [0021]; Brown). It would have been

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obvious to incorporate the teaching of Brown in that of Kato's spread spectrum teaching as Brown provides a teaching that FSK and spread spectrum could achieve the same goal.

Regarding claim 11, Kato and Brown teach the system of claim 9 further more Kato teaches wherein each endpoint further comprises an endpoint transceiver, the endpoint transmitter integrally formed in the endpoint transceiver (Figure 9, Items 80, 90 & 100). It is noted by the examiner that Kato teaches a transceiver, and a transmitter is an inherent part of a transceiver.

Allowable Subject Matter

7. Claims 13-19 are allowed.

Regarding claim 13, Kato and all other cited pertinent prior art teach a method of processing signals received from a plurality of endpoints over power distribution lines, however they fail to disclose the detail of obtaining a plurality of signals from a power distribution line, each signal corresponding to a different frequency bandwidth and simultaneously demodulation the plurality signals wherein demodulating the plurality of signals comprises separating a channel carrying the plurality of signals into sub-channels and separating each of the sub-channels into sub-sub-channels, each of the sub-sub-channels being assigned to different ones of downstream endpoint transceivers each respectively corresponding to ones of the plurality of endpoints, each of the sub-sub-channels having a predetermined bandwidth.

Claims 14-19 are allowed as they depend from allowable independent claim 13.

8. Claims 10 & 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 10, Kato and Brown teach the system of claim 9 however they fail to teach wherein the endpoint circuit includes an automated meter reading device, the automated meter reading device being interfaced within an electrical meter and the data includes a quantity of electrical power measured by the electrical meter.

In regards to claim 20, Kato teaches the system of claim 1, however Kato fails to teach wherein the substation circuit being configured to simultaneously demodulate the signals comprises the substation being configured to separate a channel on the power distribution line carrying the plurality of signals into sub-channels, and separate each of the sub-channels into sub-sub-channels, each of the sub-sub-channels being respectively assigned to different ones of the endpoints, each of the sub-sub-channels having a predetermined bandwidth.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Swarztrauber et al (US 6,947,854) disclose a system and method for online monitoring and billing of power consumption.

Cappelletti et al (US 6,950,460) disclose multichannel transceiver of digital signals over power lines.

Yuasa (US 2001/0008391) discloses transmitting device, receiving device and receiving method.

Miller et al (US 2004/0008018) disclose an electrical circuit tracing and identifying apparatus and method.

Kim et al (US 2003/0007570) disclose an apparatus for modulating and demodulating multiple channel FSK in power line communication systems.


10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

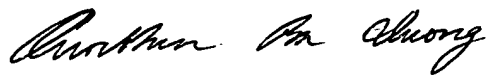
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Christian A. Hannon
October 2, 2006

 10/16/06
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PRIMARY EXAMINER